WAG130008 C-4

EPA General Permit WAG130000 - Annual Report



# Annual Report of Operations for Year 2018

**To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington**

| NPDES # for your Facility: |
|---|
| 13008 |

## Facility & Owner Information

| | |
|---|---|
| Facility Name: | WINTHROP NATIONAL FISH HATCHERY |
| Operator Name (Permittee): | UNITED STATES FISH & WILDLIFE SERVICE |
| Address: | Physical - 453 A TWIN LAKES RD, WINTHROP, WA 98862<br>Mailing - WINTHROP NFH, POB 429, WINTHROP, WA 98862 |
| Email: sara_reese@fws.gov, chris_pasley@fws.gov | Phone: 509.996.2424 |
| Owner Name (if different from operator): | |
| Email: | Phone: |

## Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ☒ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ☒ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

No changes.





ICIS 2/20/19 JR

## Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 74,606

Pounds of food fed to fish during the maximum month: 12,060 (April)

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

| Species | Fish Produced | Receiving Water(s) to which Fish were Released | Month Released/ Spawned |
|---|---|---|---|
| Summer Steelhead | 34,128 | Methow & Twisp Rivers Leader Lake | April & May |
| Coho Salmon | 16,357 | Methow River | May |
| Spring Chinook | 24,121 | Methow River | April |
| | | | |
| | | | |
| | | | |
| | | | |

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

| Month | Total Fish (lbs) | Fish Feed (lbs) | Month | Total Fish (lbs) | Fish Feed (lbs) |
|---|---|---|---|---|---|
| January | 48,531 | 1,866 | July | 19,046 | 5,457 |
| February | 51,039 | 3,511 | August | 27,936 | 8,999 |
| March | 67,123 | 11,988 | September | 38,967 | 8,165 |
| April | 83,490 | 12,060 | October | 47,300 | 6,161 |
| May | 7,646 | 3,053 | November | 50,989 | 3,690 |
| June | 11,828 | 4,217 | December | 52,952 | 1,614 |

Additional Comments:

Releases that occurred in May for summer steelhead & coho salmon were volitional releases (fish may leave over several week period), so there is no way to quantify how many of these are present at one time. Total fish in May represents fish on station that were not part of a volitional release.

## Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

| Type of Solid Disposed | Date Disposed | Location Disposed |
|---|---|---|
| Daily Fish Mortalities | Daily | Buried in station mort pit |
| Spawned Adult Carcasses | April, May, August, November (weekly) | Buried in station mort pit |
| Dead fish eggs | June, October, December | Buried in station mort pit |
| | | |

Additional Comments:

## Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

| Date | Cause of Deaths | Steps Taken to Correct Problem | Pounds of Fish |
|---|---|---|---|
| None | | | |
| | | | |
| | | | |
| | | | |

Additional Comments:

## Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

There were no noncompliance events in 2018.

## Inspections & Repairs for Production & Wastewater Treatment Systems

| Date Inspected | Date Repaired | Description of System Inspected and/or Repaired |
|---|---|---|
| None | | |
| | | |
| | | |
| | | |
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| | | |

## Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year.**
Describe the use of each drug/chemical in more detail on the following pages.

| Used in the past year? | Drug or Chemical |
|---|---|
| ☐ Yes ☒ No | Azithromycin |
| ☐ Yes ☒ No | Chloramine-T: ***See additional reporting requirements on page 7*** |
| ☐ Yes ☒ No | Chlorine |
| ☐ Yes ☒ No | Draxxin |
| ☐ Yes ☒ No | Erythromycin - injectable |
| ☐ Yes ☒ No | Erythromycin - medicated feed |
| ☐ Yes ☒ No | Florfenicol (Aquaflor) |
| ☒ Yes ☐ No | Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7*** |
| ☐ Yes ☒ No | Herbicide - describe: |
| ☐ Yes ☒ No | Hormone - describe: |
| ☐ Yes ☒ No | Hydrogen Peroxide: ***See additional reporting requirements on page 7*** |
| ☒ Yes ☐ No | Iodine: ***See additional reporting requirements on page 7*** |
| ☐ Yes ☒ No | Oxytetracycline |
| ☐ Yes ☒ No | Potassium Permanganate: ***See additional reporting requirements on page 7*** |
| ☐ Yes ☒ No | Romet |
| ☐ Yes ☒ No | SLICE (emamectin benzoate) |
| ☐ Yes ☒ No | Sodium Chloride - salt |
| ☐ Yes ☒ No | Vibrio vaccine |
| ☒ Yes ☐ No | Other: AQUI-S 20E (10% Eugenol) |
| ☐ Yes ☐ No | Other: |

## Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

| | | | |
|---|---|---|---|
| Brand Name: Parasite-S | | Generic Name: Formalin (37% Formaldehyde) | |
| Reason for use: Treatment for parasite Ich (Ichthyophthirius multifilis) | | | |
| ☐ Preventative/Prophylactic<br>☒ As-needed | Total quantity of formulated product per treatment (specify units): 2.0 gallons | Total quantity of formulated product used in past year (specify units): 50 gallons | |
| Date(s) of treatment: 10/9/18 → 10/13/18, 10/16/18, 10/19/18, 10/23/18 → 10/25/18 | | | Total number of treatments in past year: 25 |
| Maximum daily volume of treated water: 288,000 gallons | Treatment concentration (specify units): 50 ppm | Duration and frequency of treatment(s): 4 hours per treatment, as needed | |
| Method of application: | ☐ Static Bath<br>☒ Flow-through | ☐ Medicated Feed<br>☐ Other (describe): | |
| Location in facility chemical was used (check all that apply): | ☒ Raceways<br>☐ Incubation building | ☐ Ponds<br>☐ Off-line settling basin | ☐ Other (describe): |
| Where did water treated with this chemical go? (check all that apply): | ☐ Discharged w/o treatment<br>☒ Settling basin | ☐ Septic System<br>☐ Publicly owned treatment works | ☐ Other (describe): |
| Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: | | | |

| | | | |
|---|---|---|---|
| Brand Name: AQUI-S 20E | | Generic Name: AQUI-S 20E (10% Eugenol) | |
| Reason for use: Safe and effective handling of adult SST for sampling (summer steelhead) | | | |
| ☐ Preventative/Prophylactic<br>☒ As-needed | Total quantity of formulated product per treatment: 1400 mg | Total quantity of formulated product used in past year (specify units): 40,600 mg | |
| Date(s) of treatment: 02/14-02/16, 02/26-02/28, 03/05-03/07, 03/09, 03/12-03/16, 03/19-03/23, 03/25, 03/27-03/30 | | | Total number of treatments in past year: 29 |
| Maximum daily volume of treated water: 150 L | Treatment concentration (specify units): 20 mg/L or ppm | Duration and frequency of treatment(s): treated as needed length varied by # of fish to sample (2 mins - 20 mins) | |
| Method of application: | ☒ Static Bath<br>☐ Flow-through | ☐ Medicated Feed<br>☐ Other (describe): | |
| Location in facility chemical was used (check all that apply): | ☐ Raceways<br>☐ Incubation building | ☐ Ponds<br>☐ Off-line settling basin | ☒ Other (describe): large cooler (used for holding) |
| Where did water treated with this chemical go? (check all that apply): | ☐ Discharged w/o treatment<br>☒ Settling basin | ☐ Septic System<br>☐ Publicly owned treatment works | ☐ Other (describe): |
| Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: | | | |

## Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

| | | | |
|---|---|---|---|
| Brand Name: Ovadine | | Generic Name: Buffered PVP Iodine | |
| Reason for use: Disinfection of fertilized fish eggs | | | |
| ☒ Preventative/Prophylactic<br>☐ As-needed | Total quantity of formulated product per treatment (specify units): 56 mL per tray in treatment | Total quantity of formulated product used in past year (specify units): 7.5 gallons | |
| Date(s) of treatment: 4/4, 4/11, 4/18, 4/25, 5/2, 5/9, 5/16, 5/23, 8/15, 8/22, 8/29, 10/17, 10/24, 10/31, 11/7 | | | Total number of treatments in past year: 15 |
| Maximum daily volume of treated water: 220 gallons | Treatment concentration (specify units): 75 ppm | Duration and frequency of treatment(s): 25 mins. per treatment<br>1 treatment per spawn event | |
| Method of application: | ☒ Static Bath<br>☐ Flow-through | ☐ Medicated Feed<br>☐ Other (describe): | |
| Location in facility chemical was used (check all that apply): | ☐ Raceways<br>☒ Incubation building | ☐ Ponds<br>☐ Off-line settling basin | ☐ Other (describe): |
| Where did water treated with this chemical go? (check all that apply): | ☐ Discharged w/o treatment<br>☒ Settling basin | ☐ Septic System<br>☐ Publicly owned treatment works | ☐ Other (describe): |
| Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: # of trays per spawn event varied from 110 to 1. Total quantity per treatment varied from 56 mL to 6,160 mL, based on # of trays. | | | |

| | | | |
|---|---|---|---|
| Brand Name: Parasite-S | | Generic Name: Formalin (37% Formaldehyde) | |
| Reason for use: Inhibit fungal growth on adult broodstock | | | |
| ☒ Preventative/Prophylactic<br>☐ As-needed | Total quantity of formulated product per treatment: 3.6 gallons | Total quantity of formulated product used in past year (specify units): 270 gallons | |
| Date(s) of treatment: 02/09/18 → 05/25/18, 06/22/18 → 08/27/18, 09/24/18 → 11/9/18 | | | Total number of treatments in past year: 75 |
| Maximum daily volume of treated water: 18,000 gallons | Treatment concentration (specify units): 193 ppm | Duration and frequency of treatment(s): 1 hour, 3 days per week | |
| Method of application: | ☐ Static Bath<br>☒ Flow-through | ☐ Medicated Feed<br>☐ Other (describe): | |
| Location in facility chemical was used (check all that apply): | ☒ Raceways<br>☐ Incubation building | ☐ Ponds<br>☐ Off-line settling basin | ☐ Other (describe): |
| Where did water treated with this chemical go? (check all that apply): | ☒ Discharged w/o treatment<br>Settling basin | ☐ Septic System<br>☐ Publicly owned treatment works | ☐ Other (describe): |
| Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: | | | |

## Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

| | | | |
|---|---|---|---|
| Brand Name: Parasite-S | | Generic Name: Formalin (37% Formaldehyde) | |
| Reason for use: Inhibit fungal growth on steelhead kelts | | | |
| ☒ Preventative/Prophylactic<br>☐ As-needed | Total quantity of formulated product per treatment (specify units): 23 mL per tank | Total quantity of formulated product used in past year (specify units): 2.32 gallons | |
| Date(s) of treatment: 04/23/2018 – 11/17/2018 | | | Total number of treatments in past year: 112 |
| Maximum daily volume of treated water: 8,400 gallons | Treatment concentration (specify units): 166 ppm | Duration and frequency of treatment(s): 3 days per week or less as needed 1 hour treatments | |
| Method of application: | ☐ Static Bath<br>☒ Flow-through | ☐ Medicated Feed<br>☐ Other (describe): | |
| Location in facility chemical was used (check all that apply): | ☐ Raceways<br>☐ Incubation building | ☒ Ponds<br>☐ Off-line settling basin | ☒ Other (describe): circular |
| Where did water treated with this chemical go? (check all that apply): | ☐ Discharged w/o treatment<br>☒ Settling basin | ☐ Septic System<br>☐ Publicly owned treatment works | ☐ Other (describe): |
| Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: One to four tanks treated per treatment | | | |

| | | | |
|---|---|---|---|
| Brand Name: | | Generic Name: | |
| Reason for use: | | | |
| ☐ Preventative/Prophylactic<br>☐ As-needed | Total quantity of formulated product per treatment: | Total quantity of formulated product used in past year (specify units): | |
| Date(s) of treatment: | | | Total number of treatments in past year: |
| Maximum daily volume of treated water: | Treatment concentration (specify units): | Duration and frequency of treatment(s): | |
| Method of application: | ☐ Static Bath<br>☐ Flow-through | ☐ Medicated Feed<br>☐ Other (describe): | |
| Location in facility chemical was used (check all that apply): | ☐ Raceways<br>☐ Incubation building | ☐ Ponds<br>☐ Off-line settling basin | ☐ Other (describe): |
| Where did water treated with this chemical go? (check all that apply): | ☐ Discharged w/o treatment<br>☐ Settling basin | ☐ Septic System<br>☐ Publicly owned treatment works | ☐ Other (describe): |
| Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: | | | |

## Aquaculture Drugs and Chemicals (cont'd)

### *Additional Reporting Requirements for Water-Borne Treatments*

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

| **Static Bath Treatments – Ovadine** | | |
|---|---|---|
| Tank Volume | 113 per 15 trays | Liters |
| Desired Static Bath Treatment Concentration | 75 ppm | ~~ug/L~~ |
| Volume of Product Needed | 0.840 per 15 trays | Liters Product |
| Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient | Solution: 1.98 ppm<br>Active Ingredient: 0.198 ppm | Specify Units |
| Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day | 11,088,000 gallons | Specify Units |
| Maximum % of Facility Discharge Treated | 0.00027% | % of Total Discharge |

| **Flow-Through Treatments – Formalin** | | |
|---|---|---|
| Tank Volume | 229,366 | Liters |
| Calculated Flow Rate | 1136 | Liters/Minute |
| Duration of Treatment | 60 | Minutes |
| Desired Flow-Through Treatment Concentration of Product | 193 ppm | ~~ug/L~~ |
| Amount of Product to Add Initially | 0.0038 | Liters Product |
| Amount of Product to Add During Treatment | 227 | mL/Minute |
| Total Volume of Product Needed | 13.63 | Liters Product |
| Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient | Solution: 5.43 ppm<br>Active Ingredient: 2.00 ppm | Specify Units |
| Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day | 17,326,800 gallons | Specify Units |
| Maximum % of Facility Discharge Treated | 0.1039% | % of Total Discharge |

Max. Effluent Conc.

V of water discharged in 15 mins. from facility

$$\frac{29{,}148\ L}{min} \times 15\ mins = 437{,}220\ L$$

(15 mins: time to flush trays)

$$0.840\ L \text{ of ovadine per 15 trays} \times \frac{1000\ mL}{1\ L} \times \frac{1.03\ g}{mL} = 865.2\ g \times \frac{1000\ mg}{1\ g} =$$

$$\frac{865{,}200\ mg}{437{,}220\ L} = 1.978\ ppm$$

$$1.98\ ppm \times 0.1 (\text{active ingredient}) = 0.198\ ppm$$

$$\frac{30\ gallons\ (2\ gallons \times 15\ trays)}{11{,}088{,}000} = 0.00027\%$$

Amt of Product to Add / Total V Needed

[redacted] gallons = 13.63 [redacted] per treatment

$$\frac{13.63 \times 1000}{60} = \frac{227 \text{ mL}}{\text{min}}$$

Max Effluent Conc.

V of water discharged per min from facility = 45,547.97 L

Max amt of formalin per min = 227 mL

$$227 \text{ mL} \times \frac{1.09 \text{ g}}{1 \text{ mL}} \left(\text{density of formalin}\right) = 247.43 \text{ g} \times \frac{1000 \text{ mg}}{1 \text{ g}} =$$

$$\frac{247{,}430 \text{ mg}}{45{,}547.97 \text{ L}} = 5.43 \text{ ppm}$$

5.43 ppm x 0.37 = 2.00 ppm
(37% formaldehyde)

Max %

$$\frac{1136 \text{ L}}{\text{min}} \times \frac{60 \text{ min}}{\text{treatment}} = \frac{68{,}160 \text{ L treated}}{65{,}589{,}073 \text{ L discharged per day}} =$$

0.1039 %

## Changes to the Facility or Operations

| Describe any changes to the facility or operations since the last annual report. |
|---|
| No changes. |

## Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

| | |
|---|---|
| Sara E Reese | Fisheries Biologist |
| Printed name of person signing | Title |
| Sara E Reese | 01/14/2019 |
| Applicant Signature | Date Signed |

## Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140